

# Multi-Purpose & Endoscopic Phantom

## Model ATS 570



The Model 570 Multipurpose & Endoscopic phantom is an easy, comprehensive means of evaluating imaging systems over the full range of clinical imaging frequencies (2 MHz to 18 MHz). The phantom is designed with a combination of monofilament line targets for distance measurements and tissue mimicking target structures of varying sizes and contrasts. Due to the acoustic similarity of the background material and the target structures, artifacts caused by distortion, shadowing and enhancement have been eliminated. Four gray scale targets ranging in contrast from +6 to -3 dB are provided to evaluate the system's displayed dynamic range and gray scale processing performance.

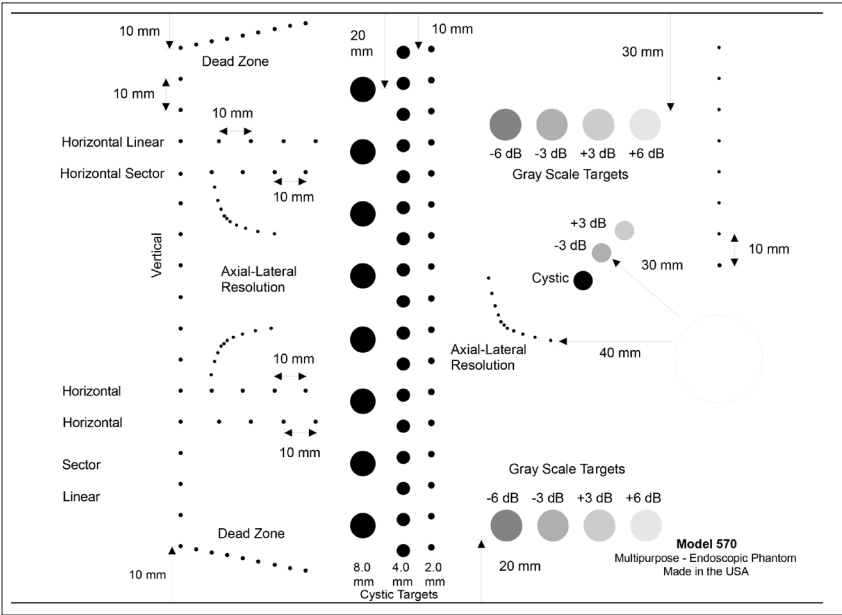
The Model 570 offers a new and improved scan surface design to easily accommodate linear, sector, endoscopic probes and mechanical sector probes such as used for rectal scanning. All ATS urethane phantoms are guaranteed for the useful life of the phantom, defined as 10 years.

### Key Tests with Model ATS 570

- Uniformity
- Depth of Penetration
- Beam Profile/ Focal Zone/ Lateral Response Width
- Vertical Measurement Calibration (B1 & B2)
- Horizontal Measurement Calibration Linear (C1&C2)
- Axial and Lateral Resolution (E1, E2, E3)
- Horizontal Measurement Calibration Sector (C1&C2)
- Contrast Resolution
- Grayscale Contrast Sensitivity (G1, G2, G3)
- Dead Zone Assessment (A1 & A2)

# CIRS

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SPECIFICATIONS

|                           |                                       |
|---------------------------|---------------------------------------|
| DIMENSIONS                | 27 x 21.5 x 9.6 cm<br>(11" x 8" x 4") |
| PHANTOM WEIGHT            | 10 lbs. (4.55 kg)                     |
| HOUSING MATERIALS         | PVC                                   |
| SCAN SURFACES             | 2                                     |
| SCAN WELLS                | 1 cm                                  |
| TISSUE-MIMICKING MATERIAL | Urethane Rubber                       |

URETHANE PROPERTIES

Freezing point: < -40°C  
Melting point: Above 100° C  
Speed of Sound: 1450 m/s at 23°  
Attenuation Coefficient: 0.5 dB/cm/MHz (measured at 3.5 MHz)

LINE TARGETS

Material: Monofilament nylon  
Diameter: 0.12 mm

VERTICAL DISTANCE GROUP

Number of targets: B1: 17  
B2: 8  
Depth range: B1: 10-160 mm  
B2: 10-80 mm  
Spacing: B1: 10 mm  
B2: 10 mm

HORIZONTAL DISTANCE GROUP

Number of groups: 2  
Depths: 5 & 5 cm  
Number of Targets: 10  
Spacing: 2 cm

DEAD ZONE GROUP

Number of targets: 9  
Depth range: 2.0 - 10.0 mm  
Spacing: 1 mm

AXIAL-LATERAL RESOLUTION GROUPS

Number of targets: 11  
Lateral Displacement: 1 mm  
Spacing: 5.0, 4.0, 3.0, 2.0, 1.0 mm  
Depth: 7.0, 11.0, 4.0, 16.0 cm

MODEL ATS 570 INCLUDES

| QTY | COMPONENT DESCRIPTION              |
|-----|------------------------------------|
| 1   | Multi-Purpose & Endoscopic Phantom |
| -   | 10-Year Warranty                   |
| -   | User Guide                         |
| -   | Certificate of Compliance          |

ANECHOIC STEPPED CYLINDERS

Type: Non-echogenic, cylindrical  
Number of Groups: 5  
Number of targets: Group 2, 3, 4- 17  
Group 6, 8- 8  
Diameter: Group 2, 3, 4- 2.0, 3.0, 4.0 mm  
Group 6, 8- 6.0, 8.0 mm  
Spacing: Group 2, 3, 4- 1 cm  
Group 6, 8- 2 cm  
Depth: 1.0 - 17.0 cm

GRAY SCALE TARGETS

Type: Echogenic, Cylindrical  
Number of Sets: 3

Set 1:

Number of Targets: 4  
Contrast Levels: +6, +3, -3, -6 dB  
Diameter: 10 mm  
Depth from Top Scan Surface: 30 mm

Set 2:

Number of Targets: 4  
Contrast Levels: +6, +3, -3, -6 dB  
Diameter: 10 mm  
Depth from Bottom Scan Surface: 20 mm

Set 3:

Number of Targets: 2  
Contrast Levels: +3, -3 dB  
Diameter: 6 mm  
Distance from Endocavity Opening: 30 mm

